

1. [Four times amended] A method for producing a flexible and low density cross-linking gel for connecting optical fibres having a refractive index, said method comprising: adjusting the refractive index of a flexible silicone gel material to be that generally equal to the refractive index of said optical fibres to be connected, and a reaction step for causing the flexible silicone gel material (adjusted in said adjusting step by cross-linking) said silicone gel material to an extent such that a gel having a low degree of cross-linking is produced for closely adhering to optical fibres; and wherein said adjusting step and said reaction step are carried out in a clean room.

7. [Four times amended] A method for producing a low cross-linking density gel used for connecting and for adhering to optical fibres, said method comprising:

adjusting the refractive index of a flexible silicone gel material to that of said optical fibres to be connected, synthesizing a composition by adding a cross-linking agent to said adjustable flexible silicone gel material; filling a syringe with said composition; sealing said syringe; and heating said sealed syringe to cause said composition to undergo an addition reaction in a binding region where cross-linking density is low, thereby producing a low cross-linking density gel in said syringe allowing close adherence to said optical fibres.

IN THE SPECIFICATION